

# **Kodiak Management Area Herring Sac Roe Fishery Harvest Strategy for the 2009 Season**

by

**Geoff Spalinger**

and

**Jeff Wadle**

April 2009

---

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



## Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mideye to fork	MEF
gram	g	all commonly accepted		mideye to tail fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	<b>Mathematics, statistics</b>	
meter	m			<i>all standard mathematical</i>	
milliliter	mL	at	@	<i>signs, symbols and</i>	
millimeter	mm	compass directions:		<i>abbreviations</i>	
		east	E	alternate hypothesis	H <sub>A</sub>
<b>Weights and measures (English)</b>		north	N	base of natural logarithm	<i>e</i>
cubic feet per second	ft <sup>3</sup> /s	south	S	catch per unit effort	CPUE
foot	ft	west	W	coefficient of variation	CV
gallon	gal	copyright	©	common test statistics	(F, t, $\chi^2$ , etc.)
inch	in	corporate suffixes:		confidence interval	CI
mile	mi	Company	Co.	correlation coefficient	
nautical mile	nmi	Corporation	Corp.	(multiple)	R
ounce	oz	Incorporated	Inc.	correlation coefficient	
pound	lb	Limited	Ltd.	(simple)	r
quart	qt	District of Columbia	D.C.	covariance	cov
yard	yd	et alii (and others)	et al.	degree (angular )	°
		et cetera (and so forth)	etc.	degrees of freedom	df
<b>Time and temperature</b>		exempli gratia		expected value	<i>E</i>
day	d	(for example)	e.g.	greater than	>
degrees Celsius	°C	Federal Information		greater than or equal to	≥
degrees Fahrenheit	°F	Code	FIC	harvest per unit effort	HPUE
degrees kelvin	K	id est (that is)	i.e.	less than	<
hour	h	latitude or longitude	lat. or long.	less than or equal to	≤
minute	min	monetary symbols		logarithm (natural)	ln
second	s	(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and		logarithm (specify base)	log <sub>2</sub> , etc.
<b>Physics and chemistry</b>		figures): first three		minute (angular)	'
all atomic symbols		letters	Jan.,...,Dec	not significant	NS
alternating current	AC	registered trademark	®	null hypothesis	H <sub>0</sub>
ampere	A	trademark	™	percent	%
calorie	cal	United States		probability	P
direct current	DC	(adjective)	U.S.	probability of a type I error	
hertz	Hz	United States of		(rejection of the null	
horsepower	hp	America (noun)	USA	hypothesis when true)	$\alpha$
hydrogen ion activity	pH	U.S.C.	United States	probability of a type II error	
(negative log of)			Code	(acceptance of the null	
parts per million	ppm	U.S. state	use two-letter	hypothesis when false)	$\beta$
parts per thousand	ppt, ‰		abbreviations	second (angular)	"
			(e.g., AK, WA)	standard deviation	SD
volts	V			standard error	SE
watts	W			variance	
				population	Var
				sample	var

***FISHERY MANAGEMENT REPORT NO. 09-12***

**KODIAK MANAGEMENT AREA HERRING SAC ROE FISHERY  
HARVEST STRATEGY FOR THE 2009 SEASON**

by  
Geoff Spalinger  
Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak  
and  
Jeff Wadle  
Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

Alaska Department of Fish and Game  
Division of Sport Fish, Research and Technical Services  
333 Raspberry Road, Anchorage, Alaska, 99518-1565

April 2009

The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: <http://www.sf.adfg.state.ak.us/statewide/divreports/html/intersearch.cfm>. This publication has undergone regional peer review.

*Geoff Spalinger*  
*Alaska Department of Fish and Game, Division of Commercial Fisheries,*  
*211 Mission Road, Kodiak, AK 99615, USA*

*and*

*Jeff Wadle*  
*Alaska Department of Fish and Game, Division of Commercial Fisheries,*  
*211 Mission Road, Kodiak, AK 99615, USA*

*This document should be cited as:*

*Spalinger, G. and J. Wadle. 2009. Kodiak Management Area herring sac roe fishery harvest strategy for the 2009 season. Alaska Department of Fish and Game, Fishery Management Report No. 09-12, Anchorage.*

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

**If you believe you have been discriminated against in any program, activity, or facility please write:**

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526

U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

**The department's ADA Coordinator can be reached via phone at the following numbers:**

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648, (Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

**For information on alternative formats and questions on this publication, please contact:**

ADF&G Division of Sport Fish, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907) 267-2375.

# TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES .....	ii
ABSTRACT .....	1
INTRODUCTION .....	1
2009 HARVEST STRATEGY .....	2
Guideline Harvest Levels .....	2
Harvest Allocation.....	2
2009 Regulation Changes.....	2
Section Assignments.....	2
Fishing Periods .....	3
Daily Fishing Periods for Most Purse Seine and Gillnet Sections .....	3
Purse Seine Fishery Management.....	4
Outer Ugak Bay Section .....	4
Village Islands/Uganik Bay sections .....	4
Inner Uyak Bay Section.....	5
Paramanof and Foul Bay sections.....	5
Danger Bay Section .....	5
Gillnet Fishery Management .....	5
Village Islands/Uganik Bay sections .....	5
Paramanof and Foul Bay sections.....	6
Danger Bay Section .....	6
Test Fishing .....	6
Management from May 1 to June 30.....	6
ADF&G AND INDUSTRY COOPERATION .....	7
CATCH REPORTING FOR BUYERS AND TENDERS .....	7
Registration Permit.....	7
Permit Holder Registration.....	8
Transporter Permits .....	8
EMERGENCY ORDER ANNOUNCEMENTS .....	8
HERRING TEST FISHERY PROGRAM.....	9
TABLES AND FIGURES .....	11

## LIST OF TABLES

Table	Page
1. List of districts and management sections, guideline harvest levels (GHLs), closed sections, and district allocation percentages for the herring sac roe fishery, Kodiak Management Area, 2009. ....	12
2. Herring sac roe fishery summary of season length, guideline harvest levels (GHL), harvest data by gear type, percentage of harvest by gear type, number of landings, and estimated exvessel earnings, Kodiak Management Area, 1979 to 2008. ....	15
3. Alaska Department of Fish and Game, Division of Commercial Fisheries management staff, Kodiak Management Area, 2009. ....	16

## LIST OF FIGURES

Figure	
1. Map of the Kodiak herring sac roe fishery by harvest areas, 2009.....	17

## ABSTRACT

This harvest strategy describes the 2009 Kodiak Management Area (KMA) commercial Pacific herring *Clupea pallasii* sac roe fishery. This harvest strategy includes the 2009 guideline harvest levels (GHLs) by section, management changes from previous years, and reporting and registration requirements.

The 2009 KMA areawide GHL is 4,340 tons and individual GHLs have been established for 37 sections. The areawide GHL is divided by gear type due to a regulatory allocative management plan (5AAC 27.535). The purse seine GHL is 3,245 tons (74.8% of the areawide GHL) and the gillnet GHL is 1,095 tons (25.2% of the areawide GHL).

There will be two types of fishing periods in the Kodiak Management Area; those that fall under the “standard” fishing schedule that is established in regulation (5 AAC 27.510), and those that occur in sections that are managed by emergency order (EO). Standard fishing periods for purse seiners from April 15 to May 7 are from NOON until 9:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered. From May 8 through June 30, fishing periods for purse seiners are from NOON until 10:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered days. For gillnet permit holders fishing periods are from NOON on odd-numbered days until NOON on even-numbered days. Continuous fishing by gillnet permit holders may occur if participation and overharvest concerns are low and will be announced by EO.

In 2009, the Village Islands/Uganik Bay, Inner Uyak Bay, and possibly the Paramanof/Foul Bay sections will be managed to enhance the value of the landed product and control harvest rates. Fishing periods will be established by EO, herring will be sampled by purse seine test sets, and time and area restrictions may be used to target the effort on herring of the largest size and highest roe content. To prevent gear conflicts and ease management of the fisheries where both gear types have an allocation, fishing will occur by each gear type on alternating days.

Key Words: Sac roe, herring, *Clupea pallasii*, Kodiak, guideline harvest levels (GHL), Kodiak Management Area (KMA), harvest strategy, Fisheries Management Report (FMR)

## INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) Division of Commercial Fisheries staff in Kodiak will manage the 2009 Kodiak commercial Pacific herring *Clupea Pallasii* sac roe fishery. This report presents the harvest strategy for the Kodiak Management Area (KMA) herring sac roe fishery, including the guideline harvest levels (GHLs) by section, section assignment by gear, changes in management, and reporting and registration requirements for the 2009 fishery.

The Kodiak herring sac roe fishery is intended to occur in an orderly fashion, with minimal waste of resource and within conservation limits as determined by the department, while striving for the highest quality product (5AAC 27.535 (e)(6)). The fishery will be managed in accordance with general statewide herring guideline harvest policies, which provide for catches in traditional inshore areas, management for the greatest value, and exploitation (harvest) not to exceed 20% of the available spawning biomass. Due to the uncertainty in estimating individual section populations, GHLs are established conservatively.

The KMA is divided into 13 districts that define geographical areas used in managing the herring sac roe fishery (Figure 1; Table 1). Each district is further divided into smaller areas called sections. There are 80 sections in the KMA which are intended to define spawning areas or geographical harvest locations. Current statistical charts, which illustrate districts and sections, are available at the ADF&G office in Kodiak.

GHLs are harvest projections within each section that are established by Kodiak ADF&G fishery management biologists annually (Table 1). After a review of stock status trends for the entire KMA, the department determines which sections will be open to commercial fishing and what level of harvest will be targeted. Each section’s GHL is set based on: 1) fishery performance

during the preceding season or seasons (e.g., total harvest, timing, duration of fishery, average school size), 2) trends in age composition, 3) spawn and juvenile herring observations, 4) aerial surveys, and 5) hydroacoustic surveys. Ancillary data from commercial fishermen and spotter pilots are considered as well in setting a GHL.

## **2009 HARVEST STRATEGY**

### **GUIDELINE HARVEST LEVELS**

For the 2009 season, GHGs have been established for 37 sections (Table 1). A total of 14 sections had little or no harvest during the last 10 years and are designated as exploratory in 2009. Exploratory areas are open to both gear types and have no set GHG. The remaining 29 sections will remain closed, based on either low abundance or lack of herring sac roe harvests.

The 2009 areawide GHG of 4,340 tons (Table 1), is a slight increase from the 2008 GHG of 4,290 tons (Table 2).

### **HARVEST ALLOCATION**

Prior to May 1, ADF&G shall manage the sac roe herring fishery to provide opportunities for gillnet permit holders to harvest approximately 25% and purse seine permit holders to harvest approximately 75% of the total preseason GHG (Table 1; 5 AAC 27.535 (e)). With few exceptions, this is accomplished by assigning sections to only purse seine gear or only gillnet gear. Each district having more than one section that is open for fishing will have approximately 20 to 30 percent of the GHG for the district allocated to the gillnet permit holders and 70 to 80 percent allocated to the purse seine permit holders (5AAC 27.535 (e)(2)(D)). Assignment of a section to a particular gear type is based on: 1) estimated biomass and age composition of the stock(s) within a section, 2) historical harvest by gear from that section, 3) historical harvest timing, 4) management concerns, and 5) determining allocative percentages.

A preseason meeting is held and input from fishery participants is also solicited prior to final section assignments.

### **2009 REGULATION CHANGES**

During the February 2009 Alaska Board of Fisheries (BOF) meeting in Sitka, regulation changes were adopted that affect the management plan of the Kodiak herring sac roe fishery, which included the following:

- From May 1 through June 30, the department may open any area with remaining GHG to any gear group if the fishery is not likely to result in overharvest.
- After April 30, CFEC permit holders must be registered with the department before participating in the sac roe herring fishery.

Regulation books showing these changes have not been printed at the time this harvest strategy was released. They are not expected to be printed by the start of the fishery.

### **SECTION ASSIGNMENTS**

The following adjacent sections will be combined and managed as a single section for the 2009 sac roe herring season (5AAC 27.535 (e)(1)(A)):



- Izhut Bay, Kitoi Bay, and MacDonald Lagoon
- Village Islands, Northeast Arm Uganik, East Arm Uganik, and South Arm Uganik bays
- Outer Deadman Bay and Inner Deadman Bay

Also, both purse seine and gillnet gear may be assigned to fish within the same section, in order to achieve the allocative split by gear type within a district.

- The combined Village Islands/Uganik Bay sections and the Danger Bay Section will be opened to both gear types in 2009 with each gear type assigned a portion of the GHL.

The remaining sections will be assigned as follows.

<u>Purse Seine Only*</u>	<u>Gillnet Only*</u>	<u>Exploratory (both gear types)</u>
Tonki Bay	Malina Bay	Perenosa Bay
Izhut/Kitoi/MacDonald	Raspberry Strait	Blue Fox/Devils Inlet
Inner Uyak Bay	Viekoda Bay	Geese/Two Headed
Inner Alitak	Terror Bay	Kaiugnak Bay
Inner/Outer Deadman Bay	West Uganik Passage	SW. Sitkalidak Strait
E. Upper Olga Bay	Browns Lagoon	Three Saints Bay
W. Upper Olga Bay	Spiridon Bay	Newman Bay
West Sitkalidak Strait	Zachar Bay	Tanginak Anchorage
Barling Bay	Sulua Bay	Inner Kukak Bay
East Sitkalidak Strait	Lower Olga Bay	Inner Katmai Bay
Outer Kiliuda Bay	Shearwater Bay	Alinchak Bay
Outer Ugak Bay	Inner Kiliuda Bay	Puale Bay
Kizhuyak Bay	Inner Ugak Bay	Portage Bay
	Womens Bay	Wide Bay
	Anton Larsen Bay	
	Sheratin Bay	

\* Beginning May 1, sections may no longer be exclusive to gear type.

Of the total 4,340 ton GHL, 3,245 tons of herring (74.8%) will be allocated to purse seine permit holders and 1,095 tons (25.2%) will be allocated to gillnet permit holders (Table 1).

## **FISHING PERIODS**

### **Daily Fishing Periods for Most Purse Seine and Gillnet Sections**

Unless otherwise specified in an emergency order (EO), herring may be taken during the sac roe season from April 15 through June 30, as follows:

- **FOR PURSE SEINE PERMIT HOLDERS:** From April 15 through May 7, fishing periods for purse seine permit holders are from NOON until 9:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered days. From May 8 through June 30, fishing periods are from NOON until 10:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered days (5AAC 27.510 (a)(1)).
- **FOR GILLNET PERMIT HOLDERS:** From April 15 through June 30, fishing periods for gillnet permit holders are from NOON on odd-numbered days until NOON on even-numbered days (5AAC 27.510 (a)(2)). Continuous fishing, announced by EO, may occur if participation and overharvest concerns are low.

Regulations stipulate a 24-hour closed period for both gear types from NOON on even-numbered days until NOON on odd-numbered days (5AAC 27.510). This “day-on, day-off” schedule applies to most sections allocated to seine gear, except for those to be managed under EO authority. It is anticipated that gillnet effort will be low in 2009 due to market conditions. As a result, gillnet only sections will likely be extended by EO after the initial opening until further notice. If effort is higher than anticipated, the EO provision will be rescinded and fishing periods in gillnet only sections will revert to the schedule in regulation.

The department may use EO authority to restrict fishing time and close areas in any section if overharvest concerns exist during the season. The department may also use EO authority to close sections late in the season if resources are not available to monitor the fishery and there are overharvest concerns.

## **PURSE SEINE FISHERY MANAGEMENT**

The department will manage the Outer Ugak Bay, Village Islands/Uganik Bay, Inner Uyak Bay, Paramanof and Foul Bay, and Danger Bay sections different than most other purse seine sections within the KMA. Openings of these sections may be delayed and some of these sections will be managed inseason by EO to enhance the value of the landed product and to control harvest rates.

### **Outer Ugak Bay Section**

The initial opening in the Outer Ugak Bay Section will be delayed until a field crew can be stationed to monitor the fishery. A news release will be issued 24 hours in advance to any opening of this section. Fishing periods in this section will be as stated in 5 AAC 27.510 (a)(1). Fishermen are strongly encouraged to sample catches for roe quality and size of herring prior to landing to ensure the highest value of product.

### **Village Islands/Uganik Bay sections**

The Village Islands, Northeast Arm Uganik, East Arm Uganik, and South Arm Uganik sections will be managed as one section with a total GHL of 1,700 tons (Table 1). In order to properly allocate herring within the Uganik District, both purse seine and gillnet gear will be allowed to fish within these combined sections. For the Village Islands/Uganik Bay sections, the purse seine GHL is 1,350 tons (Table 1).

These sections will be actively managed for roe quality and size of herring by the ADF&G management biologist present aboard the ADF&G *R/V K-Hi-C*. The department will attempt to target the fishery on herring with approximately 11% roe recovery on the grounds. Permit holders wishing to fish in these sections are urged to meet with the management biologist at 10:00 AM Wednesday, April 15, aboard the *R/V K-Hi-C* to volunteer for test fishing and discuss how the fishery will be managed.

To alleviate the potential for gear conflicts, it is expected that Village Islands/Uganik Bays fisheries for each gear type will be separated by date. The department will attempt to prosecute purse seine fisheries on odd-numbered days of the month of April and fishing time will likely begin at NOON and is unlikely to continue after 9:00 PM

Once the GHL for one gear group has been met, the fishing time for the other gear type that has not met its allocation could occur on any day.

## **Inner Uyak Bay Section**

The Inner Uyak Bay Section has a GHL of 250 tons and will be open to purse seine gear only in 2009 (Table 1). The Inner Uyak Bay Section will be managed for roe quality and size of herring. The department will attempt to target the fishery on herring with approximately 11% roe recovery on the grounds. The department vessel *R/V Resolution* will be stationed in Uyak Bay to manage the fishery; however, the vessel and biologist will not be available to manage the fishery on April 15. The *R/V Resolution* will initially be in the Paramanof and Foul Bay sections to potentially monitor those fisheries. The department will issue a news release with at least 24-hours advanced notice for a potential fishing period for the Inner Uyak Bay Section. Once the *R/V Resolution* is in the Inner Uyak Bay Section, the department will seek test fish volunteers.

Permit holders wishing to fish in this section are urged to meet with the management biologist aboard the *R/V Resolution* to volunteer for test fishing and to discuss how the fishery will be managed.

## **Paramanof and Foul Bay sections**

Department hydroacoustic surveys in the Paramanof and Foul Bay sections have seen increasing herring biomass during the last two seasons. The department will consider opening either the Paramanof or Foul Bay sections to purse seine gear by EO based on biomass estimates and quality of herring samples. A limited fishery may be allowed and a GHL established based on the observed biomass. If the estimated biomass is low or if samples consist of younger aged herring, a fishery will not be allowed. The department vessel *R/V Resolution* will be stationed in Paramanof Bay on April 15. A 24-hour notice will be given prior to the initial fishing period, and fishing periods will be established by EO by the management biologist onboard. Test fishing will occur prior to any fishery to ensure high quality herring are on the grounds.

## **Danger Bay Section**

Both purse seine and gillnet permit holders will be allowed to fish the Danger Bay Section in 2009; the GHL for purse seiners is 300 tons (Table 1). A field crew will be stationed in Danger Bay at the beginning of the season to monitor the fishery. Standard fishing periods for purse seiners will be in effect for this section. Fishermen are strongly encouraged to sample catches for roe quality and size of herring prior to landing to ensure the highest value of product.

## **GILLNET FISHERY MANAGEMENT**

Gillnet fishing periods for most sections will initially be modified by EO and continuous fishing will be allowed. However, the Village Islands/Uganik Bay, Paramanof and Foul Bay, and Danger Bay sections will not follow this schedule.

### **Village Islands/Uganik Bay sections**

In order to properly allocate herring within the Uganik District, both purse seine and gillnet gear will be allowed to fish within these combined sections. For the Village Islands/Uganik Bay sections, the gillnet permit holders GHL is 350 tons (Table 1).

Gillnet fishing periods will begin after at least one successful purse seine fishing period has occurred. This should ensure that high quality herring are present on the grounds. For gillnet gear, fishing periods will be established by EO and likely begin at 9:00 AM on even-numbered days of April and close by 9:00 AM the following odd-numbered day (24-hour open period).

If no gillnetters are on the grounds the day following a purse seine opening, the department biologist may allow another day of purse seine fishing. Gillnetters are encouraged to contact the ADF&G biologist onboard the *R/V K-Hi-C* if they intend to fish this section.

Once the GHL for one gear group has been met, the fishing time for the other gear type that has not met its allocation could occur on any day.

### **Paramanof and Foul Bay sections**

Depending on department hydroacoustic surveys, aerial surveys, and the quality of herring samples the department may allow a gillnet fishery in either Paramanof or Foul Bay. A 24-hour notice will be given prior to any potential fishing period, and fishing periods will be established by EO.

### **Danger Bay Section**

Both purse seine and gillnet permit holders will be allowed to fish the Danger Bay Section in 2009; the GHL for gillnetters is 100 tons (Table 1). This section will be open to gillnetters and purse seiners on an alternating schedule. For gillnetters, fishing periods will be modified by EO to be from noon on even-numbered days until noon on odd-numbered days.

### **TEST FISHING**

Prior to any fishery in the Village Islands/Uganik Bays, the Inner Uyak Bay, the Paramanof, and Foul Bay sections, the management biologist on the grounds will seek volunteer fishermen to conduct the test sets. Conducting test sets prior to fishery openings will allow sampling for fish size and roe quality. The boats chosen to make test fishing sets will be determined by the management biologist. In some circumstances, there may be a need to select more than one boat to make test sets. All test fishing will be coordinated and directed by the ADF&G management biologist on the grounds. No test set will be allowed without consulting the management biologist, either in person or via VHF radio channel 6.

Small amounts of herring from each test set will be kept to determine marketability. Approximately 75 to 150 pounds of herring will be randomly selected from each set to be tested for mature roe recovery (%) and average weight (grams). Sampling will occur onboard the fishing vessel or may be transported to a central fishing boat or tender for later testing.

ADF&G staff will not conduct roe recovery testing; industry personnel (processor technicians, fishermen, or tendermen) are expected to determine roe quality. Instructions on how to determine roe quality and recovery percentages may be available from buyers and processors. Additionally, processors establish minimum size requirements (average weights) for the herring that they will purchase. All fishermen are urged to check with their buyer to determine what roe recovery and size limits will be required. Management biologists will attempt to manage fisheries so that industry roe recovery and size requirements are met or exceeded. ADF&G will broadcast test fishery results on VHF channel 6.

### **MANAGEMENT FROM MAY 1 TO JUNE 30**

Based on regulations adopted by the BOF in 2009, the department may open any section with unharvested GHL to both gear groups beginning May 1. No changes will be made to sections with overharvest concerns. Some areas may not be opened to both gear groups until an ADG&G field crew is stationed on the grounds to monitor the fishery. At least 24-hours of advance notice will be given prior to opening an area to both groups.

## **ADF&G AND INDUSTRY COOPERATION**

Management of the herring sac roe fishery relies primarily on analysis of the harvest data collected by ADF&G field crews. Timely harvest information is essential to fishery management. In addition to the management biologists aboard the *R/V Resolution* and *R/V K-Hi-C*, ADF&G will station crews in mobile field camps in sections where the highest fishing activity is expected (Table 3). Field crews will initially be stationed at Amee Bay and Danger Bay. On-the-grounds monitoring of fisheries is limited or unavailable in some sections, and may occur incidentally to monitoring efforts in adjacent sections. Department staff will make frequent contact with permit holders to collect harvest data, fleet movement information, spawn observations, and observations of juvenile and adult herring concentrations.

Permit holders and tender operators are encouraged to keep ADF&G field crews aware of herring harvests. In exploratory sections and all sections where a field crew is not present, fishermen, tenders, or buyers should immediately contact area management biologists in Kodiak or onboard the *R/V Resolution* and *R/V K-Hi-C* when a harvest occurs. Past cooperation between the department, the fishing fleet, and buyers has been excellent, and it is hoped that this trend will continue. If cooperation is lacking, closure of sections may be necessary, and future openings will be closely evaluated. Fishermen are strongly encouraged to sample catches prior to landing in order to harvest the highest value product possible.

Permit holders and spotter pilots are encouraged to provide biomass estimates, juvenile herring observations, and spawn observations to the department field crews or management staff. Past cooperation has helped staff evaluate stock status and gain critical management information. All information from fishermen and spotter pilots will remain confidential. Of particular interest are any observations of herring in closed management sections. Timely information will be used by management staff to conduct aerial or hydroacoustic surveys to assess herring abundance.

Samples from the commercial herring harvests need to be collected by ADF&G field crews and management biologists. These are primarily used to monitor age composition and, when used with other stock performance indicators, will assist in determining stock status. Support and assistance from the industry are necessary for this style of fishery management to be successful. This support should result in a more manageable fishery, greater economic benefit to the permit holders, and ensure the long-term health of the KMA herring stocks.

## **CATCH REPORTING FOR BUYERS AND TENDERS**

Processors and independent tender operators are required to provide timely daily catch reports by section. Herring onboard tenders that have not yet been delivered to a processing facility must also be reported. Timely and accurate harvest reports received from field crews, permit holders, tender operators, spotters, and processors are critical in the assessment of herring harvests and guide the management of the fishery. Inaccurate or late information could result in premature area closures or overharvest. Catch reporting procedures and ADF&G contact information is listed on the registration permit.

## **REGISTRATION PERMIT**

Each KMA tender operator and buyer must obtain a registration permit from the ADF&G in the Kodiak office, either in person or through an authorized agent (5AAC 27.540). A registration permit is required prior to taking fish onboard the tender or taking fish at the processing plant.

Tenders are required to complete ADF&G fish tickets for each delivery. The fish ticket must have the fisherman's permit information legibly recorded, and must show how many pounds of fish were harvested (the on-the-grounds weight), date of harvest, and section from which the fish were harvested.

## **PERMIT HOLDER REGISTRATION.**

Regulation changes in February require that after April 30, CFEC permit holders must be registered with the department before participating in the sac roe herring fishery (5 AAC 27.510 (a)(4)). It is the responsibility of the permit holders to keep the department informed of fishing activity and report herring harvests daily. The registration permit will outline reporting requirements by gear type.

Purse seine permit holders are reminded that they may use only one purse seine vessel to harvest herring; this may be either the vessel identified on the permit card or a replacement vessel. If a Kodiak sac roe seine permit holder intends to fish with a different vessel than is listed on their permit card, they must register the replacement vessel with Kodiak management staff (5 AAC 27.525 (d)).

## **TRANSPORTER PERMITS**

All KMA herring sac roe permit holders that intend to transport herring, other than their own commercially harvested herring, are required to have in their possession a fish transporter Permit (AS 16.05.671). Permit applications are available at the Kodiak ADF&G office.

## **EMERGENCY ORDER ANNOUNCEMENTS**

Two types of EOs may be issued in season by the ADF&G for the KMA herring sac roe fishery: 1) announcements of short commercial fishing periods in the Village Islands/Uganik Bay, Paramanof/Foul Bays, and Inner Uyak Bay sections, and 2) announcements of in-period fishery closures in all other sections, which follow the standard fishing schedule. When a preseason GHF for a section is approached or achieved, that section will be closed for the remainder of the season. Due to the rapid pace of the harvest in certain locations, in-period closures are likely. When in-period closures are necessary, there may be as little as five minutes advanced notice prior to the closure time, or less if practical. In-period closures will be announced on VHF channel 6. Fishermen and tender operators should monitor VHF channel 6 to remain aware of section closures.

At any time during the season, if the department determines that herring stock abundance is below preseason expectations, sections may be closed prior to reaching their GHF.

A news release will be issued to announce fishery decisions such as openings, closures, area restrictions, etc. News releases are posted on the ADF&G website, distributed to processors, local radio stations, newspapers, and other interested parties. Contact the Kodiak herring area management biologists at the Kodiak ADF&G office to be added to the fax or email distribution lists for herring news releases.

All permit holders, tender operators, and processors are responsible for staying updated on section closures as they occur in season. Fishery information can be obtained through the following:

- 1) Contact the herring management staff in the Kodiak office, in person, by telephone at 486-1830, or by using Matrix AlaskaNet Satellite Dispatch at #7410.
- 2) Contact department field personnel on VHF channel 6 or using Matrix Alaska Net Satellite Dispatch (*R/V Resolution* - #7411, and *R/V K-Hi-C* - #7412).
- 3) Contact any local herring processor for the latest Kodiak herring news release.
- 4) Call the ADF&G 24-hour recorded message phone at 486-4559.
- 5) Obtain a copy of the most recent news release from the Kodiak ADF&G office at 211 Mission Road (copies are available 24 hours per day in a bin located outside the main entrance to the building).
- 6) Listen to the ADF&G reports broadcast over the local AM and FM radio stations (consult stations for broadcast times).
- 7) News releases may also be found on the web at:  
<http://www.cf.adfg.state.ak.us/region4/finfish/herring/herrhom4.php>
- 8) Contact department biologists after hours at the following numbers:

Jeff Wadle – 539-1807

Geoff Spalinger – 942-4822

Joe Dinnocenzo – 942-5014

## **HERRING TEST FISHERY PROGRAM**

A herring test fishery program is proposed for the 2009 season to generate funds to be used for Kodiak herring fishery management and research projects. However, herring prices may be too low this year to warrant test fishing. The department will request bids from processors and/or fishermen for the harvest and purchase of herring if prices approach \$400/ton. Interested skippers should contact a Kodiak herring management biologist at the ADF&G office for more details (Table 3).





## **TABLES AND FIGURES**

Table 1.—List of districts and management sections, guideline harvest levels (GHLs), closed sections, and district allocation percentages for the herring sac roe fishery, Kodiak Management Area, 2009.

Statistical Area	Management Section	2009 Guideline Harvest Level Tons	Purse Seine Tons	Gillnet Tons
<b><i>NORTH AFOGNAK DISTRICT</i></b>				
NA10	Shuyak Island	CLOSED	-	-
NA20	Delphin Bay	CLOSED	-	-
NA30	Perenosa Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
NA40	Seal Bay	CLOSED	-	-
NA50	Tonki Bay	30	30	CLOSED
<b><i>WEST AFOGNAK DISTRICT</i></b>				
WA10	Raspberry Strait	10	CLOSED	10
WA20	Malina Bay	10	CLOSED	10
WA31	Paramanof Bay	To be announced	To be announced	To be announced
WA32	Foul Bay	To be announced	To be announced	To be announced
WA40	Blue Fox/Devil's Inlet	EXPLORATORY	EXPLORATORY	EXPLORATORY
WA50	Offshore W. Afognak	CLOSED	-	-
<b><i>SOUTH AFOGNAK DISTRICT</i></b>				
SA10	Izhut Bay	40	40	CLOSED
SA20	Kitoi Bay	* Note: SA10, SA20, and SA30 will be managed as one section.		
SA30	MacDonalds Lagoon	* Note: SA10, SA20, and SA30 will be managed as one section.		
SA40	Danger Bay	400	300	100
SA50	Litnik	CLOSED	-	-
SA60	Duck Bay	CLOSED	-	-
<b><i>TOTAL ALL AFOGNAK DISTRICTS</i></b>		490	370	120
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			75.5%	24.5%
<b><i>UGANIK DISTRICT</i></b>				
UG10	Kupreanof	CLOSED	-	-
UG20	Viekoda Bay	25	CLOSED	25
UG21	Terror Bay	30	CLOSED	30
UG30	Village Islands	1,700	1,350	350
UG31	West Uganik Passage	40	-	40
UG32	NE Arm Uganik Bay	* Note: UG30, UG32, UG33, and UG34 will be managed as one section with 1,350 ton GHL for purse seine gear and 350 ton GHL for gillnet gear.		
UG33	East Arm Uganik Bay			
UG34	South Arm Uganik Bay			
UG40	Offshore Uganik	CLOSED	-	-
<b><i>DISTRICT TOTAL</i></b>		1,795	1,350	445
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			75.2%	24.8%
<b><i>UYAK DISTRICT</i></b>				
UY10	Offshore Uyak	CLOSED	-	-
UY20	Harvester Island	CLOSED	-	-
UY30	Inner Uyak	250	250	CLOSED
UY32	Browns Lagoon	50	CLOSED	50
UY31	Larsen Bay	CLOSED	-	-
UY40	Zachar Bay	30	CLOSED	30
UY50	Spiridon Bay	10	CLOSED	10
<b><i>DISTRICT TOTAL</i></b>		340	250	90
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			73.5%	26.5%

-continued-

Table 1.–Page 2 of 3.

		2009 Guideline		
Statistical Area	Management Section	Harvest Level Tons	Purse Seine Tons	Gillnet Tons
<b>ALITAK DISTRICT</b>				
AL10	Outer Alitak	CLOSED	-	-
AL20	Inner Alitak	100	100	CLOSED
AL21	Inner Deadman Bay	300	300	CLOSED
AL22	Outer Deadman Bay	*AL21 and AL22 will be managed as one section.		
AL30	Sulua Bay	75	CLOSED	75
AL40	Lower Olga	75	CLOSED	75
AL41	East Upper Olga Bay	75	75	CLOSED
AL50	West Upper Olga Bay	75	75	CLOSED
AL60	Geese/Twoheaded	EXPLORATORY	EXPLORATORY	EXPLORATORY
<b>DISTRICT TOTAL</b>		700	550	150
<b>DISTRICT ALLOCATION PERCENTAGE</b>			78.6%	21.4%
<b>STURGEON/HALIBUT DISTRICT</b>				
SH10	Sturgeon/Halibut	CLOSED	CLOSED	CLOSED
<b>EASTSIDE DISTRICT</b>				
EA10	Kaiugnak	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA20	SW. Sitkalidak	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA21	Three Saints Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA22	Newman Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA23	W. Sitkalidak Strait	100	100	CLOSED
EA24	Barling Bay	100	100	CLOSED
EA30	E. Sitkalidak Strait	125	125	CLOSED
EA31	Tanginak Anchorage	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA40	Outer Sitkalidak	CLOSED	-	-
EA41	Boulder Bay	CLOSED	-	-
EA42	Shearwater Bay	40	CLOSED	40
EA43	Outer Kiliuda Bay	50	50	CLOSED
EA44	Inner Kiluida Bay	40	CLOSED	40
EA50	Outer Ugak Bay	250	250	CLOSED
EA51	Inner Ugak Bay	150	CLOSED	150
EA52	Pasagshak Bay	CLOSED	-	-
<b>DISTRICT TOTAL</b>		855	625	230
<b>DISTRICT ALLOCATION PERCENTAGE</b>			73.1%	26.9%
<b>NORTHEAST DISTRICT</b>				
NE10	Womens Bay	30	CLOSED	30
NE20	Kalsin Bay	CLOSED	-	-
NE30	Middle Bay	CLOSED	-	-
NE40	Inshore Chiniak	CLOSED	-	-
NE50	Offshore Chiniak	CLOSED	-	-
<b>DISTRICT TOTAL</b>		30	CLOSED	30
<b>DISTRICT ALLOCATION PERCENTAGE</b>			0%	100%

-continued-

Table 1.–Page 3 of 3.

Statistical Area	Management Section	2009 Guideline <u>Harvest Level</u> Tons	<u>Purse Seine</u> Tons	<u>Gillnet</u> Tons
<b><i>INNER MARMOT DISTRICT</i></b>				
IM10	Monashka Bay	CLOSED	-	-
IM20	Anton Larsen Bay	15	CLOSED	15
IM30	Sharatin Bay	15	CLOSED	15
IM40	Kizhuyak Bay	100	100	CLOSED
IM50	Spruce Island	CLOSED	-	-
<b><i>DISTRICT TOTAL</i></b>		130	100	30
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			76.9%	23.1%
<b><i>NORTH MAINLAND DISTRICT</i></b>				
NM10	Hallo Bay	CLOSED	-	-
NM20	Inner Kukak	EXPLORATORY	EXPLORATORY	EXPLORATORY
NM30	Outer Kukak	CLOSED	-	-
NM40	Missak Bay	CLOSED	-	-
<b><i>MID MAINLAND DISTRICT</i></b>				
MM10	Inner Katmai	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM20	Outer Katmai	CLOSED	-	-
MM30	Alinchak	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM40	Puale Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM50	Portage Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM60	Outer Portage	CLOSED	-	-
<b><i>SOUTH MAINLAND DISTRICT</i></b>				
SM10	Wide Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
SM20	Lower Shelikof	CLOSED	-	-
<b><i>MAINLAND DISTRICTS TOTAL</i></b>		0	0	0
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			0.0%	0.0%
<b><i>GRAND TOTAL</i></b>		4,340	3,245	1,095
<b><i>ALLOCATION PERCENTAGE ALL DISTRICTS</i></b>			74.8%	25.2%

Table 2.—Herring sac roe fishery summary of season length, guideline harvest levels (GHL), harvest data by gear type, percentage of harvest by gear type, number of landings, and estimated exvessel earnings, Kodiak Management Area, 1979 to 2008.

Year	Season Length (Days)	GHL (Tons)	Total Harvest (Tons)	Harvest		Percent Harvest		Number of		Units of Gear		Average Catch		Estimated Average		Price per Ton <sup>a</sup>	Estimated Exvessel Total Value <sup>a</sup>
				by Gear Type		by Gear Type		Landings by Gear		Fished		by Gear		Earnings <sup>a</sup>			
				Seine (Tons)	Gillnet (Tons)	Seine	Gillnet	Seine	Gillnet	Seine	Gillnet	Seine (Tons)	Gillnet (Tons)	Seine (\$)	Gillnet (\$)		
1979	36	2,400	1,735	1,457	278	84%	16%	-	-	57	125	26	2	38,342	3,336	1,500	2,602,500
1980	35	2,400	2,383	2,009	374	84%	16%	-	-	92	109	22	3	15,068	2,368	690	1,644,270
1981	48	2,400	2,065	1,596	469	77%	23%	207	406	79	114	20	4	14,647	2,983	725	1,497,125
1982	59	2,400	1,771	1,447	324	82%	18%	138	191	45	67	32	5	17,686	2,660	550	974,050
1983	51	2,400	2,319	1,797	522	77%	23%	164	284	41	64	44	8	35,063	6,525	800	1,855,200
1984	54	2,400	2,163	1,691	472	78%	22%	138	212	39	69	43	7	34,687	5,472	800	1,730,400
1985	59	2,000	1,968	1,244	724	63%	37%	118	348	34	81	37	9	32,929	8,044	900	1,771,200
1986	61	1,690	1,558	1,110	448	71%	29%	132	385	31	71	36	6	34,016	5,994	950	1,480,100
1987	61	1,640	2,146	1,591	554	74%	26%	122	411	29	62	55	9	54,862	8,935	1,000	2,146,000
1988	59	2,065	2,171	1,304	867	60%	40%	169	555	33	76	40	11	51,370	14,830	1,300	2,822,300
1989	76	2,415	2,249	1,513	736	67%	33%	171	627	37	83	41	9	34,758	7,537	850	1,911,650
1990	75	2,375	2,347	1,644	703	70%	30%	156	544	27	63	61	11	51,756	9,485	850	1,994,950
1991	83	2,510	2,432	1,697	735	70%	30%	169	587	32	64	53	11	45,077	9,762	850	2,067,200
1992	77	2,720	4,283	3,260	1,023	76%	24%	185	706	40	74	82	14	40,750	6,912	500	2,141,500
1993	77	3,525	4,929	4,203	726	85%	15%	237	294	41	86	103	8	56,382	4,643	550	2,710,950
1994	71	4,550	5,893	4,976	917	84%	16%	285	485	66	57	75	16	60,315	12,870	800	4,714,400
1995	73	4,480	4,604	3,837	768	83%	17%	280	642	73	71	53	11	66,858	13,759	1,272	5,856,288
1996	69	4,180	3,386	2,322	1,064	69%	31%	202	890	57	74	41	14	81,474	28,757	2,000	6,772,000
1997	49	3,435	3,235	2,629	606	81%	19%	183	418	64	59	41	10	20,539	5,136	500	1,617,500
1998	50	2,030	2,057	1,954	103	95%	5%	110	26	35	7	56	15	27,914	7,357	500	1,028,500
1999	38	1,495	1,651	1,589	62	96%	4%	94	16	31	5	51	12	33,984	8,221	663	1,094,613
2000 <sup>b</sup>	37	1,735	1,370	1,290	80	94%	6%	57	23	31	10	42	8	29,129	5,600	700	959,000
2001	47	1,540	1,694	1,412	282	83%	17%	67	37	33	9	43	31	21,394	15,667	500	847,000
2002	46	1,860	1,677	1,274	403	76%	24%	37	50	30	14	42	29	21,233	14,393	500	838,500
2003	42	2,600	1,992	1,738	254	87%	13%	59	45	31	11	56	23	28,032	11,545	500	996,000
2004	42	2,850	3,167	2,894	273	91%	9%	95	36	27	11	107	25	53,593	12,409	500	1,583,500
2005	31	3,475	3,463	2,932	531	85%	15%	134	61	32	12	92	44	45,813	22,125	500	1,731,500
2006	34	3,705	2,643	2,617	26	99%	1%	86	*	21	*	125	*	34,270	*	275	726,825
2007	28	4,000	2,546	2,510	36	99%	1%	105	8	21	3	120	12	47,810	4,800	400	1,018,400
2008	38	4,290	3,099	3,086	13	>99%	<1%	108	*	22	*	140	*	73,643	*	525	1,626,975
Average																	
1979 to 2008	54	2,719	2,633	2,154	479	81%	19%	143	296	41	52	59	13	40,113	8,898	765	2,025,347
10 Year																	
1999 to 2008	38	2,755	2,330	2,134	196	91%	9%	84	28	28	8	82	21	38,890	10,516	506	1,142,231
5 Year																	
2004 to 2008	35	3,664	2,984	2,808	176	95%	5%	106	22	25	6	117	21	51,026	9,947	440	1,337,440

<sup>a</sup> Exvessel values are based on dock delivered herring and inseason data.

<sup>b</sup> Beginning in 2000, an allocative harvest strategy was in effect.

\* Confidentiality requirements prohibit the release of this information.

Table 3.—Alaska Department of Fish and Game, Division of Commercial Fisheries management staff, Kodiak Management Area, 2009.

---

<b>Office:</b>	
Regional Supervisor	Jim McCullough
Regional Finfish Management Supervisor	Dave Sterritt
Area Management Biologist	Jeff Wadle
Assistant Area Management Biologist	Geoff Spalinger
Assistant Area Management Biologist	Joe Dinnocenzo
Fishery Biologist	Iris Caldentey

---

<b>Field Staff:</b>	
R/V K-Hi-C:	
Boat Officer	Danny Wilson
Management Biologists	Jeff Wadle/Joe Dinnocenzo
R/V Resolution:	
Boat Officer	Denis Cox
Management Biologist	Geoff Spalinger
Field Crews:	
Fishery Biologist	Iris Caldentey
Fishery Technician	David Goodie
Fishery Technician	Jon Becker
Fishery Technician	Thomas Kinsley

---

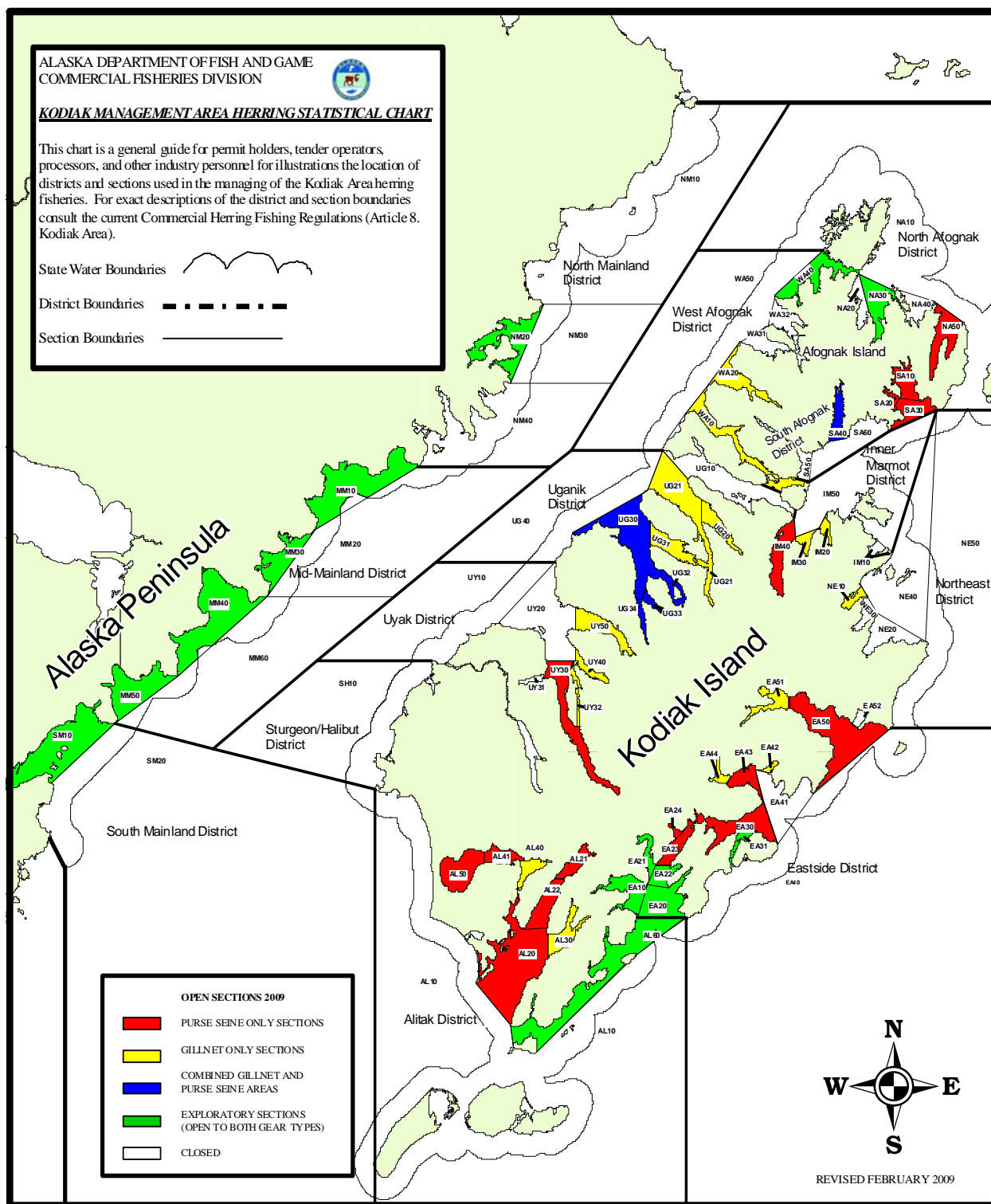


Figure 1.—Map of the Kodiak herring sac roe fishery by harvest areas, 2009.